



## EVALUATION OF ADULT PER RECTUM BLEEDING USING VARIOUS DIAGNOSTIC METHODS

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### ABSTRACT

The aim of this study was to find out various proportion of diseases responsible for bleeding per rectum in adults and to find out diagnostic utility of anoproctoscopy, rigid sigmoidoscopy and colonoscopy for patients with bleeding per rectum. It also aimed to find out the usefulness of other investigations like upper GI scopy, computed tomography etc., in undiagnosed cases. In this study, a total of (100) patients who presented with per rectum bleeding at Al-Ramadi teaching hospital/Iraq were included during the period from June 2018 to December 2019. All cases were subjected to anoproctoscopy and rigid sigmoidoscopy. Colonoscopy was done in cases with severe or recurrent bleeding which were undiagnosed by sigmoidoscopy. The results at the end of evaluation showed that the cause of bleeding was identified in 72 (72.0%) of the cases, while 28 cases (28.0%) remained undiagnosed. It can be concluded from the current study that large bowel endoscopy increases the diagnostic yield in patients with per rectum bleeding. Rigid sigmoidoscopy is a safe OPD based procedure, recommended in all patients presenting with bleeding per rectum and if the cause for bleeding per rectum cannot be diagnosed by rigid sigmoidoscopy, then colonoscopy is indicated.

**KEYWORDS:** Per rectum bleeding, Rigid sigmoidoscopy, Colonoscopy.

### INTRODUCTION

The term bleeding per rectum refers to the passage of fresh bright red bleed through the anus with or without stool. Bleeding per rectum is a common clinical problem with a prevalence of 14 to 19% in adults.<sup>[1-4]</sup> Lower gastrointestinal disorders are responsible for majority of bleeding per rectum but 10 to 15% bleeding PR is associated with upper gastro intestinal disorders. Most patients bleed from benign sources such as hemorrhoids and diverticula but others have serious colorectal diseases including colon cancer.

Lower gastrointestinal endoscopy (Proctoscopy, sigmoidoscopy, colonoscopy) plays an important role in identifying the cause of bleeding per rectum. These procedures offer direct visualization of the mucosa of large intestine.

The present study is an attempt to find out various proportion of diseases responsible for bleeding per rectum in adults and to find out diagnostic utility of anoproctoscopy, rigid sigmoidoscopy and colonoscopy

for patients with bleeding per rectum. It also aims to find out the usefulness of other investigations like upper GI scopy, computed tomography etc., in undiagnosed cases.

The aim and objectives of the study were to find out various proportion of diseases responsible for bleeding per rectum in adults, find out diagnostic utility of anoproctoscopy, rigid sigmoidoscopy and colonoscopy for patients with bleeding per rectum and to find out impending percentage of cases of bleeding per rectum remains undiagnosed after anoproctoscopy, rigid sigmoidoscopy, colonoscopy and came out with other useful investigations like upper GI scopy, computed tomography, RBC scintigraphy scan etc.

### METHODS

This cross sectional study was done on (100) patients presenting at department of general surgery at Al-Ramadi teaching hospital/ Iraq with complaint of bleeding per rectum during the period from June 2018 to December 2019.

Inclusion criteria included all the patients above 18 years who attended the surgical OPD with complaint of passage of blood per rectum. Exclusion criteria involved patients who did not give informed consent. Patients less than 18 years of age and patients with bleeding per rectum which is associated with acute painful conditions like acute fissure and thrombosed hemorrhoids.

In all the cases detailed history was taken and patients were subjected to complete clinical examination including per rectal examination. Depending upon the severity, patients with bleeding per rectum were classified into 3 categories- mild, moderate and severe/profuse. For all the cases ano-proctoscopy was done in left lateral position. Rigid sigmoidoscopy was carried out in left lateral (Sim's) position for all the cases. Rigid sigmoidoscope having diameter of 1.5 cm and length of 25 cm was used. If the source of bleeding was not able to be identified even after clinical examination and proctoscopy sigmoidoscopic examination, then colonoscopy was planned depending upon the patient's severity of bleeding. In undiagnosed cases, if the patient had severe bleeding per rectum or recurrent episodes of bleeding per rectum, then

colonoscopy is advised and the patients were sent to outside hospital for colonoscopy. After colonoscopy, the patients were followed up and colonoscopy reports were noted. If the source of bleeding could not be identified even after colonoscopy, then patients were advised for other investigations like computerized tomography, upper GI scopy, etc. depending upon the severity of bleeding and other associated clinical features.

#### Statistical analysis

Statistical test used in this study was the descriptive statistics. Results were expressed in mean and standard deviation.

#### RESULTS

The results demonstrated that out of (100) cases, 65 (65%) were males and 35(35%) were females, and that the highest No. and percentage of patients was within the age group (21-30) years as shown in table (1). Severity of bleeding results showed that 87(87%) of cases had mild bleeding, 11(11%) cases had moderate bleeding, while 2(2%) cases had severe bleeding.

**Table (1): Distribution of age and sex among patients with per rectum bleeding.**

Age (years)	Total No. of cases	No. of male cases	No. of female cases	Percentage (%)
12-20	2	1	1	2.0
21-30	28	18	10	28.0
31-40	23	12	11	23.0
41-50	25	16	9	25.0
51-60	12	9	3	12.0
61-70	9	7	2	9.0
71-80	1	1	-	1.0
<b>Total</b>	100	65	35	100.0

The source of bleeding could be identified in 64 (64%) of cases after clinical examination, proctoscopy and rigid sigmoidoscopy. Out of (42) patients with haemorrhoidal

disease, (1) patients had proctitis, (1) patient had sigmoid colon polyp and (1) patient had sigmoid colitis as seen in table (2).

**Table (2): Diagnosis made by rigid sigmoidoscopy in this study.**

Diagnosis	No. of cases
Hemorrhoids	42 (1 cases with proctitis, 1 case with sigmoid colon polyp and 1 cases with sigmoid colitis)
Fistula in ano	6
Anal fissure	5
Rectal prolapse	2
Proctitis	2
Colorectal carcinoma	3
Sigmoid colon polyp	1
Colitis	1
Rectal varices	1
Solitary rectal ulcer	1
<b>Total</b>	64

Out of (36) cases in which the diagnosis could not be achieved after rigid sigmoidoscopy, (19) cases had moderate to severe bleeding or recurrent bleeding or had high risk factors of colorectal carcinoma like advance

age >50 years, positive family history etc., and these (19) cases were advised and subjected to colonoscopy. Out of (19) cases which were subjected to colonoscopy, diagnosis could be achieved in (8) cases. After

employing colonoscopy to the needed cases, the source of bleeding could be done in 72 (72%) cases out of 100 cases as illustrated in table (3).

**Table (3): Diagnosis made by colonoscopy in this study.**

Colonoscopy diagnosis	No of cases
Colorectal carcinoma	1
Colitis	1
Crohn's disease	1
Ulcerative colitis	2
Diverticulosis of colon	2
Multiple colonic polyposis	1

Out of (19) cases with moderate to severe bleeding or recurrent bleeding, colonoscopy could not identify the source of bleeding in (11) cases. Out of these (11) cases, (6) cases had either complaint of hematemesis or history of liver disease.

All cases were subjected to clinical examination including per rectal examination, proctoscopy and rigid

sigmoidoscopy, and (19) cases were subjected to colonoscopy, while (5) cases were subjected to upper GI scopy and (2) patients were subjected to CT. After all the above evaluation, diagnosis was made in 72 cases (72.0%) and 28 cases (28.0%) remained undiagnosed.

Various causes for bleeding per rectum were identified in this study including hemorrhoids in 39(39.0%) cases, hemorrhoids with sigmoid colon polyp in (1) (1.0%) case, hemorrhoids with proctitis in 1(1.0%) case, hemorrhoids with sigmoid colitis in 1(1.0%) case, anal fissure in 5(5.0%) cases, fistula in ano in 6(6.0%) cases, rectal prolapse in 2(2.0%) cases, proctitis in 2(2.0%) cases, solitary rectal ulcer in 1(1.0%) case, rectal varices in 1(1.0%) case, sigmoid colon polyp in 1(1.0%) case, multiple colonic polyposis in 1(1.0%) case, colon carcinoma in 4(4.0%) cases, colonic diverticulosis in 2(2.0%) cases, Crohn's disease in 1(1.0%) case and ulcerative colitis in 2(2.0%) cases as shown in table (4).

**Table (4): Various causes of bleeding per rectum at the end of evaluation.**

Diagnosis	No. of male cases	No. of female cases	Total no. of cases	Percentage (%)
Hemorrhoids	30	9	39	39.0
Hemorrhoids with proctitis	1	-	1	1.0
hemorrhoids with sigmoid colon polyp	1	-	1	1.0
hemorrhoids with sigmoid colitis	1	-	1	1.0
Anal fissure	2	3	5	5.0
Fistula in ano	3	3	6	6.0
Rectal prolapse	1	1	2	2.0
Proctitis	1	1	2	2.0
Solitary rectal ulcer	1	0	1	1.0
Rectal varices	0	1	1	1.0
Colitis	1	1	2	2.0
Sigmoid colon polyp	1	-	1	1.0
Multiple colonic polyposis	-	1	1	1.0
Colorectal carcinoma	2	2	4	4.0
Diverticulosis of colon	2	-	2	2.0
Crohn's disease	1	-	1	1.0
Ulcerative colitis	1	1	2	2.0
Undiagnosed cases	16	12	28	28.0
<b>Total</b>	<b>65</b>	<b>35</b>	<b>100</b>	<b>100.0</b>

## DISCUSSION

Benign ano rectal pathologies are responsible for majority of bleeding per rectum. But if there was no obvious anal cause found, then there are no clear guidelines how to evaluate the patient further to arrive at the diagnosis. This study evaluated the patients with bleeding per rectum and employed various diagnostic tests like sigmoidoscopy, colonoscopy, upper GI scopy, CT angiography to find out the various causes responsible for bleeding per rectum.

In 1998, a study by Talley et al stated that the prevalence of rectal bleeding was significantly higher in younger individuals (20-40 years of age).<sup>[2]</sup> In this study, the bleeding per rectum was also found to be more common in young adults. Out of (100) cases evaluated, 53 (53.0%) cases were less than 40 years of age and 47 (47.0%) cases were above 40 years.

In the study by Dehn et al, it was found that anal diseases like hemorrhoids and fissure were responsible for bleeding in 81% of cases.<sup>[5]</sup> In this study, benign anal disorders including hemorrhoids, anal fissure and fistula

in ano were responsible for bleeding in 53 cases out of 72 cases in which the source of bleeding was identified in (73.6%) of cases.

A study by Cheung *et al.*, clearly showed the coexistence of benign anal lesions like hemorrhoids with colorectal cancer and other dangerous colorectal disorders and also concluded that the patients with frank rectal bleeding should be screened for the presence of left colon cancer irrespective of the existence of hemorrhoids and also suggested sigmoidoscopy as convenient tool for the screening.<sup>[6]</sup>

Another study by Srinivas *et al.* demonstrated the high diagnostic yield of rigid sigmoidoscopy and also recommended rigid sigmoidoscopy in the workup of patients presenting with bleeding per rectum.<sup>[7]</sup>

Therefore, in this study all the (100) cases with bleeding per rectum were also subjected to rigid sigmoidoscopy and when rigid sigmoidoscopic examination was included in the evaluation of cases, the diagnostic yield in this study was 64%.

Though colonoscopy is a very useful diagnostic tool in patients with bleeding per rectum, the affordability for the colonoscopy and the availability of resources is very minimal especially in developing countries.

In addition, many studies like study by Nikpour *et al.* suggested the sufficiency of sigmoidoscopy over colonoscopy in ruling out dangerous lesions leading to bleeding per rectum in low to average risk individuals.<sup>[8]</sup> Hence, in this study, among the undiagnosed bleeding per rectum cases, colonoscopy was done only in patients with other high risk factors like moderate /severe /recurrent bleeding, advanced age and positive family history. After employing colonoscopy, the diagnostic yield increased from 64% to 72%.

In a clinical series by Jensen *et al.*, it was revealed that (11%) of patients initially suspected of having lower gastrointestinal bleeding actually had an upper gastrointestinal source and upper GI scopy was recommended in suspected cases.<sup>[9]</sup>

In our current study, colorectal carcinoma was diagnosed in 4 cases and the incidence of colorectal carcinoma was 4.0%. Out of these 4 cases, 3 cases were diagnosed with clinical examination and rigid sigmoidoscopy and 1 case was diagnosed with colonoscopy. In a study performed by Dakubo *et al.*, they found that sigmoidoscopy (both rigid and flexible) diagnosed 95.3% of the tumors and colonoscopy diagnosed the remaining 4.7% of tumours.<sup>[10]</sup> In this study only rigid sigmoidoscopy was used which detected 71.4% of malignant tumours and Colonoscopy detected the remaining 28.6% of malignant tumours.

Left sided colorectal carcinoma especially carcinoma of

recto sigmoid junction and rectal carcinoma were more common than right sided colorectal carcinoma and the majority of left sided tumors can be easily diagnosed by rigid sigmoidoscopy. In this study also 3 patients had left sided colorectal tumors and out of these 3 cases, 2 cases were diagnosed by rigid sigmoidoscopy. Hence, when resources for colonoscopy were limited rigid sigmoidoscopy can effectively be used for screening the low to average risk patients with bleeding per rectum.

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